

CHAPTER Env-Dw 700 WATER QUALITY: STANDARDS, MONITORING, TREATMENT, COMPLIANCE, AND REPORTING

Statutory Authority: RSA 485:3

PART Env-Dw 701 PURPOSE AND APPLICABILITY; UNITS OF MEASURE

Env-Dw 701.01 Purpose. The purpose of the rules in Chapter Env-Dw 700 is to establish:

- (a) Drinking water quality standards for public water systems (PWS), including maximum contaminant levels (MCLs), secondary maximum contaminant levels (SMCLs), and maximum contaminant level goals (MCLGs) for radiological, microbiological, organic, and inorganic contaminants, specified in Env-Dw 702 through Env-Dw 706;
- (b) Laboratory analytical methods to assess drinking water quality, specified in Env-Dw 707;
- (c) Monitoring, reporting, and compliance requirements for PWS, specified in Env-Dw 708 through Env-Dw 713;
- (d) Treatment requirements for PWS, including:
 - (1) Corrosion control, specified in Env-Ws 381 or successor rules in Env-Dw 714;
 - (2) Disinfection and disinfection by-products, specified in Env-Dw 715; and
 - (3) Filtration and disinfection, specified in Env-Dw 716;
- (e) Requirements applicable to PWS using groundwater, specified in Env-Dw 717;
- (f) Reporting and recordkeeping requirements for PWS, specified in Env-Dw 719;
- (g) Requirements relative to sanitary surveys and other inspections, to be specified in Env-Dw 720;
- (h) Provisions applicable to non-compliance, including engineering studies to determine the cause of non-compliance and procedures and criteria for variances and exemptions, to be specified in Env-Dw 721 through Env-Dw 723;
- (i) Treatment techniques and requirements for PWS, including modification by mixing sources, best available treatment for various parameters, to be specified in Env-Dw 724 through Env-Dw 727; and
- (j) Requirements relative to point-of-use and point-of-entry treatment, and the provision of bottled water, to be specified in Env-Dw 728.

Env-Dw 701.02 Applicability.

- (a) Unless otherwise specified, the rules in Env-Dw 702 through Env-Dw 706 shall apply to all water provided by a public water system, as defined in RSA 485:1-a, XV, or a privately-owned redistribution system, as defined in RSA 485:1-a, XIV-a.
- (b) The remaining rules in Env-Dw 700 shall apply as specified therein.

Env-Dw 701.03 Units of Measure for Maximum Contaminant Levels (MCLs) and Maximum Contaminant Level Goals (MCLGs). The units of measure for MCLs and MCLGs shall be as follows:

- (a) Picocuries per liter, abbreviated as pCi/L;
- (b) Milligrams per liter, abbreviated as mg/L;
- (c) Micrograms per liter, abbreviated as µg/L;
- (d) Millirem per year, abbreviated as mrem/year; and
- (e) Fibers per liter, abbreviated as fibers/L.

PART Env-Dw 702 MICROBIOLOGICAL MCLs AND MCLGs

Env-Dw 702.01 Applicability of Microbiological MCLs and MCLGs. The microbiological MCLs and MCLGs shall apply to all public water systems, including community water systems, non-transient non-community water systems, and transient non-community water systems, and to privately- owned redistribution systems.

Env-Dw 702.02 Determination of Compliance with Microbiological MCLs and MCLGs.

(a) All system owners shall monitor for microbiological contaminants in accordance with Env-Dw 707, Env-Dw 708, and Env-Dw 709.

(b) The microbiological MCL shall be based on the presence or absence of total coliforms in a sample, rather than coliform density, in accordance with the following:

(1) For a system that collects 40 or more samples per month, if no more than 5.0 percent of the samples collected during a month are positive for total coliforms, the system shall be deemed in compliance with the MCL for total coliforms; or

(2) For a system that collects less than 40 samples per month, if no more than one sample collected during a month is positive for total coliforms, the system shall be deemed in compliance with the MCL for total coliforms.

(c) For purposes of the public notification requirements in Env-Ws 355.01 or successor rule in Env-Dw 800, the following shall be deemed to be acute violations of the MCL for total coliforms that pose an acute risk to health:

(1) Any repeat sample that is positive for fecal coliforms or E. coli; and

(2) Any repeat sample that is positive for total coliforms following a routine sample that is positive for fecal coliforms or E. coli.

(d) A system owner shall determine compliance with the MCL for total coliforms for each month or time period in which it is required to monitor for total coliforms in accordance with Env-Dw 707, Env-Dw 708, and Env-Dw 709.

(e) Determinations of compliance with the microbiological MCLs and MCLGs shall be as stated in Env-Dw 707, Env-Dw 708, and Env-Dw 709.

Env-Dw 702.03 MCLs and MCLGs for Microbiological Contaminants. The MCLs and MCLGs for microbiological contaminants shall be as stated in Table 702-1, below:

Table 702-1
Microbiological MCLs and MCLGs

Microbiological Contaminant	MCL	MCLG
Cryptosporidium	None established	Zero
Total Coliforms	Absence	Zero
Fecal coliforms/ <u>E. coli</u>	Absence	Zero
<u>Giardia Lamblia</u>	None established	Zero
<u>Legionella</u>	None established	Zero
Viruses	None established	Zero

PART Env-Dw 703 RADIONUCLIDE CONTAMINANT MCLs AND MCLGs

Env-Dw 703.01 MCLs and MCLGs for Radionuclide Contaminants.

(a) For a community water system, the MCLs and MCLGs for radionuclide contaminants shall be as stated in Table 703-1, below:

Table 703-1
MCLs and MCLGs for Radionuclide Contaminants

Radionuclide Contaminant	MCL	MCLG
Compliance Gross Alpha	15 pCi/L	0 pCi/L
Radium 226 + 228	5 pCi/L	0 pCi/L
Uranium	30 µg/L	0 µg/L
Beta Particles	4 mrem/year	0 mrem/year

(b) Compliance with radionuclide contaminant MCLs shall be:

- (1) Calculated as specified in Env-Dw 710; and
- (2) Based on the monitoring as specified in Env-Dw 707, Env-Dw 708, and Env-Dw 710.

(c) The combined radium-226 and radium-228 value shall be determined by the addition of the results of the analysis for radium-226 and the analysis for radium-228, provided both analyses are performed on samples collected on the same day.

Env-Dw 703.02 Radon Testing for New Water Supply Sources.

(a) Analysis for radon shall only be required as part of the approval process for new community or non-transient non-community water supply sources or a new source at an existing community or non-transient non-community water system pursuant to applicable provisions of Env-Dw 301, Env-Dw 302, Env-Ws 372, or Env-Ws 373, or successor rules in subtitle Env-Dw.

(b) If the local legislative body of a political subdivision that is developing a new public water system or a new well for an existing public water system does not vote to approve funding for the radon test and the test is not fully funded by the state, the department shall not require the test to be performed by that political subdivision for that system or well.

Env-Dw 703.03 Beta Particles and Photon Radioactivity from Man-made Sources.

(a) The average annual concentration of beta particle and photon radioactivity from man-made radionuclides in drinking water provided by a community water system shall not produce an annual dose equivalent to the total body or any internal organ greater than 4 mrem/year.

(b) In accordance with 40 CFR 141.66(d)(2) except for the radionuclides listed in Table 703-2, below, the concentration of man-made radionuclides causing 4 millirem total body organ dose equivalents shall be calculated on the basis of an intake of 2 liters of drinking water per day using 168 hour data as listed in "Maximum Permissible Body Burdens and Maximum Permissible Concentrations of Radionuclides in Air and in Water for Occupational Exposure," National Bureau of Standards Handbook 69 as amended August 1963, U.S. Department of Commerce.

(c) If 2 or more radionuclides are present, the sum of their annual dose equivalent to the total body or to any organ shall not exceed 4 mrem/year.

(d) The average annual concentrations assumed to produce a total body or organ dose of 4 mrem/year shall be as specified in Table 703-2, below:

Table 703-2
Average Annual Concentrations Assumed to Produce a Total Body or Organ Dose of 4 mrem/year

Radionuclide	Critical Organ	Average Annual Concentration (pCi/L)
Tritium	Total Body	20,000
Strontium 90	Bone Marrow	8

(e) Compliance shall be determined in accordance with Env-Dw 707, Env-Dw 708, and Env-Dw 710.

PART Env-Dw 704 REGULATED INORGANIC CHEMICAL CONTAMINANT MCLs AND MCLGs

Env-Dw 704.01 Applicability of MCLs and MCLGs for Health-Related Regulated Inorganic Chemical (IOC) Contaminants.

(a) Except as provided in (b) and (c), below, the MCLs and MCLGs for the health-related regulated inorganic chemical (IOC) contaminants specified in Env-Dw 704.02 shall apply to community water systems and non-transient non-community water systems.

(b) The MCLs and MCLGs for nitrate and nitrite specified in Env-Dw 704.02 shall apply to community water systems, non-transient non-community water systems, and transient non-community water systems.

(c) The MCL and MCLG for fluoride shall apply to all community water systems and only those non-transient non-community water systems that serve day care centers or schools with children under 9 years of age.

Env-Dw 704.02 MCLs and MCLGs for Health-Related Regulated IOC Contaminants. The MCLs and MCLGs for health-related regulated IOC contaminants shall be as listed in Table 704-1, below:

Table 704-1
IOC MCLs and MCLGs

IOC Contaminant	MCL (mg/L unless otherwise specified)	MCLG (mg/L unless otherwise specified)
Antimony	0.006	0.006
Arsenic	0.010	Zero
Asbestos	7 million fibers/L (longer than 10 µm)	7 million fibers/L (longer than 10 µm)
Barium	2	2
Beryllium	0.004	0.004
Cadmium	0.005	0.005
Chromium	0.1	0.1
Copper	See Env-Dw 704.03	1.3
Cyanide (as free Cyanide)	0.2	0.2
Fluoride (also see Env-Dw 706)	4.0	4.0
Lead	See Env-Dw 704.03	Zero
Mercury	0.002	0.002
Nitrate (as N)	10	10
Nitrite (as N)	1	1
Total Nitrate + Nitrite	10	10
Selenium	0.05	0.05
Thallium	0.002	0.0005

Env-Dw 704.03 Lead and Copper. The concentrations of lead and copper in drinking water shall be regulated as specified in Env-Ws 381 or successor rules in Env-Dw 714.

PART Env-Dw 705 REGULATED ORGANIC CHEMICAL CONTAMINANT MCLs AND MCLGs

Env-Dw 705.01 MCLs and MCLGs for Health-Related Regulated Volatile Organic Chemical (VOC) Contaminants.

(a) The MCLs and MCLGs for the health-related regulated volatile organic chemical (VOC) contaminants specified in (b), below, shall apply to each community water system and each non-transient non-community water system that has not requested and received a waiver as provided in Env-Dw 712.22.

(b) The MCLs and MCLGs for health-related regulated VOC contaminants shall be as stated in Table 705-1, below:

Table 705-1
VOC MCLs and MCLGs

VOC Contaminant	MCL (mg/L)	MCLG (mg/L)
Benzene	0.005	Zero
Carbon tetrachloride	0.005	Zero
o-Dichlorobenzene (1,2-Dichlorobenzene)	0.6	0.6
para-Dichlorobenzene (1,4-Dichlorobenzene)	0.075	0.075
1,2-Dichloroethane	0.005	Zero
1,1-Dichloroethylene	0.007	0.007
cis-1,2-Dichloroethylene	0.07	0.07
trans-1,2-Dichloroethylene	0.1	0.1
Dichloromethane (Methylene chloride)	0.005	Zero
1,2-Dichloropropane	0.005	Zero
Ethylbenzene	0.7	0.7
Methyl tertiary-butyl ether (MtBE)	0.013	0.013
Monochlorobenzene (chlorobenzene)	0.1	0.1
Styrene	0.1	0.1
Tetrachloroethylene	0.005	Zero
Toluene	1	1
1,2,4- Trichlorobenzene	0.07	0.07
1,1,1-Trichloroethane	0.2	0.20
1,1,2-Trichloroethane	0.005	0.003
Trichloroethylene	0.005	Zero
Vinyl chloride	0.002	Zero
Xylene, Total	10	10

Env-Dw 705.02 MCLs and MCLGs for Health-Related Regulated Synthetic Organic Chemical (SOC) Contaminants.

(a) The MCLs and MCLGs for the health-related regulated synthetic organic chemical (SOC) contaminants specified in (b), below, shall apply to any community water system or non-transient non-community water system that has not requested and received a waiver as provided in Env-Dw 712.22.

(b) Subject to (c), below, the MCLs and MCLGs for SOC contaminants shall be as stated in Table 705-2, below:

Table 705-2
SOC Contaminant MCLs and MCLGs

SOC Contaminant	MCL (mg/L)	MCLG (mg/L)
Alachlor (Lasso)	0.002	Zero
Aldicarb (Temik)	0.003	0.001
Aldicarb sulfoxide	0.004	0.001
Aldicarb sulfone (aldoxycarb)	0.002	0.001
Atrazine (Atranex, Crisazine)	0.003	0.003
Carbofuran (Furadon, 4F)	0.04	0.04
Chlordane	0.002	Zero
Dalapon	0.2	0.2
Dibromochloropropane (DBCP)	0.0002	Zero
Di(2-ethylhexyl)adipate	0.4	0.4
Di(2-ethylhexyl)phthalate	0.006	Zero
Dinoseb	0.007	0.007
Diquat	0.02	0.02
Endothall	0.1	0.1
Endrin	0.002	0.002
Ethylene Dibromide (EDB)	0.00005	Zero
Glyphosate	0.7	0.7
Heptachlor	0.0004	Zero
Heptachlor Epoxide	0.0002	Zero
Hexachlorobenzene	0.001	Zero
Hexachlorocyclopentadiene	0.05	0.05
Lindane	0.0002	0.0002
Methoxychlor (DMDT, Martate)	0.04	0.04
Oxamyl (Vydate)	0.2	0.2
PAH - Benzo(a)pyrene	0.0002	Zero
Picloram	0.5	0.5
Polychlorinated Biphenyls (PCB)	0.0005	Zero
Pentachlorophenol	0.001	Zero
Simazine	0.004	0.004
Toxaphene	0.003	Zero
2,3,7,8 TCDD (Dioxin)	0.00000003	Zero
2,4,5 TP (Silvex)	0.05	0.05
2,4 D	0.07	0.07

(c) Analysis for the following contaminants shall be required only as part of the initial pumping test and water quality sampling program required by Env-Dw 301 or Env-Dw 302, as applicable, based on the identification of a potential source of one or more of the contaminants in the preliminary contamination source inventory completed pursuant to Env-Dw 301.08 or Env-Dw 302.09, as applicable:

- (1) Dibromochloropropane (DBCP);
- (2) Ethylene dibromide (EDB);
- (3) Polychlorinated biphenyls (PCB);
- (4) Dalapon;
- (5) Diquat;

- (6) Endothall; and
- (7) 2,3,7,8 TCCD (Dioxin).

(d) Monitoring and compliance for SOC contaminants shall be as specified in Env-Dw 707, Env-Dw 708, and Env-Dw 712.

Env-Dw 705.03 MCLs and MCLGs for Health-Related Disinfection Byproducts.

(a) The MCLs and MCLGs for the health-related disinfection byproducts specified in (c) and (d), below, respectively, shall apply to each community water system and non-transient non-community water system at which any chemical disinfectant is added to the water in any part of the drinking water treatment process.

(b) Monitoring for disinfectant byproducts shall be as specified in Env-Ws 382 or successor rule in Env-Dw 715.

(c) The MCLs for disinfection byproducts shall be as specified in Table 705-3 below:

Table 705-3
Disinfection Byproducts

Contaminant	MCL (mg/L)
Total trihalomethanes (TTHM)	0.080
Haloacetic acids (five) (HAA5)	0.060
Bromate	0.010
Chlorite	1.0

(d) The MCLGs for disinfection byproducts shall be as specified in Table 705-4, below:

Table 705-4
MCLGs for Disinfection Byproducts

Contaminant	MCLG (mg/L)
Bromodichloromethane	0
Bromoform	0
Bromate	0
Dichloroacetic Acid	0
Trichloroacetic Acid	0.3
Chlorite	0.8
Dibromochloromethane	0.06

Env-Dw 705.04 Health-Related Regulated Residual Disinfectants.

(a) The maximum residual disinfection levels (MRDLs) specified in (c), below, shall apply to each community water system and non-transient non-community water system at which any chemical disinfectant is added to the water in any part of the drinking water treatment process.

(b) The chlorine dioxide MRDL specified in (c), below, shall apply to each public water system at which chlorine dioxide is used as a disinfectant or oxidant.

(c) The MRDLs and maximum residual disinfection level goals (MRDLGs) for disinfectant residuals shall be as specified in Table 705-5 below:

Table 705-5
MRDLs and MRDLGs

Contaminant	MRDL (mg/L)	MRDLG (mg/L)
Chlorine, as Cl ₂	4.0	4
Chloramines, as Cl ₂	4.0	4
Chlorine Dioxide, as ClO ₂	0.8	0.8

(d) Monitoring and compliance for residual disinfectants shall be as specified in Env-Ws 382 or successor rule in Env-Dw 715.

Env-Dw 705.05 Special Treatment Chemicals.

(a) The MCLs and MCLGs for the treatment chemicals specified in (b), below, shall apply to community water systems and non-transient non-community water systems.

(b) The MCLs and MCLGs for treatment chemicals shall be as specified in Table 705-6, below:

Table 705-6
MCLs and MCLGs for Certain Treatment Chemicals

Contaminant	MCL	MCLG
Acrylamide	0.05% dose at 1 mg/L	Zero
Epichlorohydrin	0.01% dose at 20 mg/L	Zero

(c) Compliance with the MCLs and MCLGs in Table 705-6, above, shall be determined in accordance with Env-Dw 712.21.

PART Env-Dw 706 REGULATED SECONDARY MCLs (SMCLs)

Env-Dw 706.01 Aesthetics-Related Regulated Secondary Maximum Contaminant Levels (SMCLs).

(a) This part shall apply to contaminants in drinking water that primarily affect aesthetic qualities relating to the public acceptance of drinking water. At considerably higher concentrations of these contaminants, health implications may also exist.

(b) Subject to (c), below, the SMCLs for community water systems and non-transient non-community water systems shall be as stated in Table 706-1, below:

Table 706-1
Secondary Maximum Contaminant Levels

Contaminant	SMCL
Aluminum	0.05 - 0.2 mg/L
Chloride	250 mg/L
Color	15 color units
Copper	1.0 mg/L
Corrosivity	Non-corrosive
Fluoride	2.0 mg/L
Foaming Agents	0.5 mg/L
Iron	0.3 mg/L
Manganese	0.05 mg/L
Methyl tertiary-butyl ether (MtBE)	0.020 mg/L
Odor	3 threshold odor number
pH	6.5 - 8.5

Silver	0.1 mg/L
Sulfate	250 mg/L
Sulfide	0.05 mg/L
Total Dissolved Solids (TDS)	500 mg/L
Zinc	5 mg/L
Sodium	100-250 mg/L

(c) For aluminum, the SMCL based on color considerations shall be 0.05 mg/L and the SMCL based on treatment process considerations shall be 0.2 mg/L.

Env-Dw 706.02 Monitoring for Aesthetic-Related Regulated Contaminants.

(a) Monitoring for aesthetic-related regulated contaminants shall be as specified in Env-Dw 707, Env-Dw 708, and Env-Dw 713.

(b) Subject to (c), below, monitoring for the factors listed below shall be waived after initial testing required pursuant to Env-Ws 372 or Env-Ws 373, as applicable, or successor rules in subtitle Env-Dw:

- (1) Aluminum;
 - (2) Color;
 - (3) Corrosivity;
 - (4) Foaming agents;
 - (5) Odor;
 - (6) Silver;
 - (7) Sodium;
 - (8) Sulfide; and
 - (9) TDS.
- (c) The system shall take samples for the appropriate factors listed in (b), above, based on:
- (1) Exceedances of the SMCLs in any of its active water supply sources; or
 - (2) Customer complaints attributable to these factors.

APPENDIX

Rule Section(s)	State Statute(s) Implemented	Federal Regulations Implemented
Env-Dw 701 (formerly Env-Ws 310.01) - see also specific sections/paragraphs below	RSA 485:1, I	40 CFR 141 Subpart A
Env-Dw 701.01(a)	RSA 485:1, I	40 CFR 141 Subpart A
Env-Dw 701.01(b)	RSA 485:44, I	40 CFR 141.28
Env-Dw 701.01(c)	RSA 485:3, I	40 CFR 141 Subpart D, Q
Env-Dw 701.01(d)	RSA 485:3, I	40 CFR 141 Subpart H, I, L
Env-Dw 701.01(e)	RSA 485:3, I	40 CFR 141 Subpart S
Env-Dw 701.01(f)	RSA 485:1, II(a)	40 CFR 141 Subpart D
Env-Dw 701.01(g)	RSA 485:1, II(d)	---
Env-Dw 701.01(h)	RSA 485:41, IV	---
Env-Dw 701.01(i)	RSA 485:3, VIII	40 CFR 142 Subpart G
Env-Dw 701.01(j)	RSA 485:1-a; RSA 485:3	40 CFR 141 Subpart J
Env-Dw 701.02	RSA 485:1, II	40 CFR 141 Subpart A
Env-Dw 701.03	RSA 485:3, I	40 CFR 141 Subpart G
Env-Dw 702 (formerly Env-Ws 313)	RSA 485:3, I	40 CFR 141.52; 40 CFR 141.63
Env-Dw 703 (formerly Env-Ws 312)	RSA 485:3, I	40 CFR 141.55; 40 CFR 141.66
Env-Dw 704 (formerly Env-Ws 314)	RSA 485:3, I	40 CFR 141.51; 40 CFR 141.62
Env-Dw 705 (formerly Env-Ws 315) (see also specific section below)	RSA 485:3, I	40 CFR 141.50; 40 CFR 141.53; 40 CFR 141.54; 40 CFR 141.61; 40 CFR 141.64; 40 CFR 141.65
Env-Dw 705.05 (formerly Env-Ws 315.05)	RSA 485:3, IV	40 CFR 141.111
Env-Dw 706 (formerly Env-Ws 316)	RSA 485:3, I(a), I(b)(1), II; RSA 485:16-a; 485:3, I	40 CFR 143.3; 40 CFR 141.64; 40 CFR 141.65